X-Ray Absorption Spectroscopy of Metallo-Imprinted Polymer Hosts

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We have been performing X-ray absorption studies on the polymers containing imprinted with cobalt or iron binding sites, many of which mimic the coordination sites of metalloenzymes and oxygen-binding proteins. The template polymerization technique (using kinetically inert cobalt(III) complexes) allows for the synthesis of new metal complexes that cannot be formed by solution techniques. EXAFS has proved to be a valuable tool in confirming that the metal sites in the imprinted polymers have the expected coordination geometry.